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FOOD IS MEDICINE

VITAMIN D DEFICIENCY SYMPTOMS & HOW TO CURE IT

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Would you believe that the majority of the population — up to 90% of adults in the United States — is believed to have a Vitamin D deficiency? Many physicians are starting to take this vitamin deficiency very seriously; in fact, Vitamin D is one of the most recommended supplements by physicians today.

Vitamin D is a fat-soluble vitamin that is stored in the liver and fatty tissues. This means that increased body fat has the ability to absorb Vitamin D and keep it from being used within our body. Vitamin D is somewhat different than other vitamins because our body makes most of our Vitamin D on its own, rather than solely relying on food sources.

The way that our bodies make Vitamin D is to convert sunshine into chemicals that are used by the body. The cholesterol in our skin converts “previtamin D” and makes it into usable vitamin D3, which is sometimes also called provitamin D.

There are two types of supplemental Vitamin D: Vitamin D2 and Vitamin D3. The precursor to Vitamin D is found in both plant and animal products, but animal-derived products of Vitamin D3 are thought to be more absorbable and beneficial.

The body is able to convert some D2 to be used for body functions, but prefers and is able to use Vitamin D3 much more effectively. Vitamin D3 is believed to convert up to 500 times faster than D2 and has been estimated to be 4X more effective in humans than D2 is.

Many people assume that the best way to acquire Vitamin D is through drinking milk, eating fish, or even taking supplements like cod liver oil. However direct exposure to the sun is actually the best way to absorb Vitamin D.

Most experts recommend getting about 10-15 minutes daily of direct sunlight without wearing sunscreen if you are fair to medium toned. If you have dark skin, you will likely need more time in the sun to make enough Vitamin D since your skin has more protection against the sun's effects. Some experts recommend that darker toned people spend about 40 minutes to one hour in the sun daily if possible.

Here is a good rule of thumb to know that the sun is creating Vitamin D in your skin: you want to look at your shadow and see that it's shorter than you are; this will tell you that the sun is high enough in the sky and strong enough to convert Vitamin D in your skin.

Vitamin D Deficiency Symptoms & Causes

Your skin makes Vitamin D when it comes in contact with the ultraviolet B (UVB) rays from the sun. Therefore, one of the biggest reasons that a growing population is experiencing Vitamin D deficiency symptoms is because of our modern, primarily-indoor lifestyle. This contributes to the two most common causes of Vitamin D deficiency symptoms:

- ▶ Lack of Sun
- ▶ Sunscreens

According to research, Vitamin D deficiency symptoms can be linked to the following health problems:

- ▶ Osteoporosis
- ▶ Heart disease
- ▶ High blood pressure
- ▶ Cancer
- ▶ Autoimmune diseases
- ▶ Depression
- ▶ Insomnia
- ▶ Arthritis
- ▶ Diabetes
- ▶ Asthma
- ▶ Multiple Sclerosis

- ▶ Chronic pain
- ▶ Psoriasis
- ▶ Fibromyalgia
- ▶ Autism

The only way to know if you are deficient in Vitamin D is to have your doctor perform a test. This will tell you if, and how severely, you are deficient.

When your doctor performs a blood test and gives you the results for your Vitamin D levels, keep these numbers in mind:

- ▶ 50+ equals a good level of Vitamin D
- ▶ 30-50 means that you will want to be supplementing Vitamin D, working on spending more time in the sun and adding in Vitamin D rich foods to your diet.
- ▶ <30 means that you are very deficient and you will definitely want to take immediate action to bring those levels up!

Talk with your doctor about supplementing with higher doses of Vitamin D if you are severely deficient or have a very low level according to tests done. When your doctor performs a Vitamin D test, specify that you would like to have the 25-hydroxyvitamin D test done, sometimes also called the 25(OH) D test.

Top Vitamin D Sources

- ▶ Sunlight
- ▶ Halibut
- ▶ Carp Fish
- ▶ Mackerel
- ▶ Eel
- ▶ Maitake Mushrooms (Exposed to UV light)
- ▶ Salmon
- ▶ Whitefish
- ▶ Portabella Mushrooms (Exposed to UV Light Exposure)

- ▶ Swordfish
- ▶ Rainbow Trout
- ▶ Cod Liver Oil
- ▶ Sardines
- ▶ Tuna
- ▶ Eggs
- ▶ Raw Milk

Top 7 Health Benefits of Vitamin D

1 **Contributes to Bone Health**

Vitamin D plays a role in calcium absorption into the bones. Calcitriol (converted Vitamin D) works with the parathyroid hormone to maintain calcium levels. Additionally, Vitamin D has an effect on other important vitamins and minerals that contribute to bone health, including Vitamin K and phosphorus.

Studies have shown that Vitamin D in doses of 800-5000 IU/day can improve musculoskeletal health, naturally slow aging of the skeletal structure, and reduce the rate of fractures and falls in older adults that are over 65.

2 **Helps Manage Blood Sugar Levels and Can Prevent Diabetes**

Diabetes results from lack of insulin or inadequate insulin secretion following increases in insulin resistance. According to studies, since calcium is necessary for insulin secretion, Vitamin D may contribute to maintaining insulin secretion.

Vitamin D supplementation can increase insulin sensitivity and decrease inflammation, and studies support a role for Vitamin D in the prevention and management of both types of diabetes.

3 Protects Against Cancer

Vitamin D deficiency symptoms have been correlated with increased risks for cancer development, especially breast, colon, and prostate cancers. Vitamin D can affect the risk of breast, colon and ovarian cancers possibly due to its role in the cell life cycle or its ability to block excess estrogen.

4 Helps Fight Heart Disease

A growing number of research points to the fact that a Vitamin D deficiency is linked to increased risks for cardiovascular disease, since it is involved in regulating blood pressure, cholesterol levels, and inflammation.

5 Enhances Our Immune System

Vitamin D helps with healthy cell replication and may play a role in protecting against the development of autoimmune conditions in addition to less serious common colds and the flu.

Our immune cells contain receptors for Vitamin D, and it's been shown that Vitamin D seems to prevent prolonged or excessive inflammatory responses. Inflammation is often at the root of many modern, chronic diseases and autoimmune disorders: multiple sclerosis, rheumatoid arthritis, irritable bowel syndrome and other digestive disorders, high blood pressure, and more.

6 Facilitates Hormone Regulation and Helps Improve Our Mood

Because it acts like a hormone within our body and effects brain function, Vitamin D deficiency has been linked to an increased risk for mood disorders including depression, seasonal depression (known as the "winter blues" but actually more serious), severe mood problems experienced during PMS, insomnia, and anxiety.

Low levels of Vitamin D can also interfere with proper testosterone and estrogen production, leading to imbalances, which can result in many unwanted symptoms.

7 Helps with Concentration, Learning, and Memory

Several studies have shown that Vitamin D also effects our ability to make decisions, concentrate, and to retain information. Some studies have shown that people with lower levels of vitamin D perform poorly on standardized exams, may have poor decision-making skills, and have difficulty with tasks that require focus and attention.

Additionally, some research has shown a correlation between low levels of Vitamin D and an increased risk for developing schizophrenia and multiple sclerosis.

Recommended Daily Intake of Vitamin D

Because Vitamin D deficiency symptoms are a growing concern worldwide, but especially in western developed nations, authorities recently increased the recommended daily intake of vitamin D to double the previous amount for newborns, kids, and adolescents.

My Recommendation for Children:

- ▶ Below 5: 35 units per pound/day
- ▶ Ages 5-10: 2500 units/day

My Recommendation for Adults (including pregnant women):

- ▶ 5000 units/day

Luckily your skin is able to regulate Vitamin D conversion according to heat and other factors. It can store pre-vitamin D for future use, and destroy amounts above and beyond what is safe. So deficiency is usually a much bigger concern than consuming too much Vitamin D.

Because Vitamin D is a fat soluble vitamin, it ideally needs to be consumed with fat in order to have optimal absorption.

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